

ABSTRACT OF THE DISCLOSURE

After forming a resist film of a chemically amplified resist material including a base polymer, an acid generator for generating an acid through irradiation with light and lactone, pattern exposure is performed by selectively irradiating the resist film with exposing light while supplying, onto the resist film, water that is circulated and temporarily stored in a solution storage. After the pattern exposure, the resist film is subjected to post-exposure bake, and is then developed with an alkaline developer. Thus, a resist pattern made of an unexposed portion of the resist film can be formed in a good shape.